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10/634,884	08/06/2003	Makoto Katase	109115.01	7542

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EXAMINER

SAJOUS, WESNER

ART UNIT	PAPER NUMBER
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2628

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/634,884

**Applicant(s)**

KATASE, MAKOTO

**Examiner**

Sajous Wesner

**Art Unit**

2628

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-9, 11, 12 and 15-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 and 28 is/are allowed.
- 6) ☒ Claim(s) 7-9, 11, 12 and 15-22 is/are rejected.
- 7) ☒ Claim(s) 23-26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This communication is responsive to the amendment and response dated December 10, 2007. Claims 7-9, and 11-12, 15-28 are presented for examination.

#### ***Response to Arguments***

1. Applicant's arguments with respect to claims 7-9, and 11-22 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7-9, 11-15, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwahara et al. (US 6486866) in view Liang et al (US 20050007651).

Considering claims 7, and 19, Kuwahara discloses an electrooptical device comprising: a plurality of pixel elements, wherein each of the pixel elements comprises an electrode, including an electrooptical layer disposed between electrodes, see Fig. 18, 19, 20, col. 1 lines 49-61, the electrooptical layer of each pixel element including a first cell and a second cell each containing a dispersion medium, and electrophoretic particles suspended in the dispersion medium, with a multicolor display being provided by driving the first cell and a second cell within each of the pixel elements. See col.3

lines 32-42 and col.3 lines 64-67; the dispersion medium included in the first cell is colored so as to absorb the first color and the dispersion medium in the second cell being colored so as to absorb the second color. See Figs. 3 and 4, and col.28 lines 39-43.

Kuwahara fails to suggest the electrophoretic particles in the first cell (far left, fig. 4E) being colored to a first color (i.e., red) so as to reflect the first color to reach a viewer and electrophoretic particles in the second cell (middle cell, fig. 4E) being colored a second color (i.e., green) so as to reflect the second color to reach the viewer, the first color being different from the second color, each of the electrophoretic particles being colored only one color (as in claim 7); and/or the particles being colored a first color so as to reflect a color to be reached to a viewer, each of the particles being colored only one color (as in claim 19). See fig. 4E or 4F, and paragraphs 116-117, 120-125, which is disclosed by Liang.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the display device of Kuwahara to include a display device with particles each of the electrophoretic particles are being colored only one color, in the same conventional manner as taught by Liang; in order to result in the color of the particles to be seen from the top transparent opening of the electrodes, hence proving an improved electrophoretic display with isolated cells of well-defined shape, size and aspect ratio. See Liang's paragraphs 3, and 116.

In regard to claims 8, 20, Kuwahara teaches the first color and the second color include red, green, and blue. See col. 3 lines 32-42.

In regard to claims 9, 22, Kuwahara teaches an electrooptical device comprising: a plurality of pixel elements, wherein the dispersion medium included in each cell is substantially colored black, col.3 lines 64-67.

In regard to claim 11, Kuwahara teaches an electrooptical device comprising: a plurality of pixel elements, wherein the dispersion medium included in each cell is colored so as to be complementary to the particles included in the dispersion medium of each cell. See col. 7 lines 60-67.

In regard to claim 12, Kuwahara teaches an electrooptical device comprising: a plurality of pixel elements, wherein the particles included in each of the cells are of a single color. See col.3 lines 64-67.

In regard to claim 13, Kuwahara teaches an electrooptical device comprising an electrooptical layer between electrodes, wherein the electrooptical layer has a plurality of cells (micro-capsule) each including a dispersion medium and particles contained in the dispersion medium, and the plurality of cells form one pixel. See Fig. 14, col. 30 lines 1-10.

In regard to claim 14, Kuwahara teaches an electrooptical device comprising an electrooptical layer between electrodes, wherein the particles are colored differently from each other between the cells. See col.30 lines 27-40.

In regard to claim 15, Kuwahara teaches an electrooptical device is incorporated as a display. See col. 29, lines 55-60.

In regard to claim 21, Kuwahara teaches an electrooptical device, the second color being selected from a group including cyan, magenta and yellow. See col. 16 lines 60-65.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 16 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Amundson et al. (US 20060038772).

Considering claim 16, Amundson discloses an electrooptical display (see fig. 1) comprises electrodes (104, 106) which sandwich a plurality of micro-capsules, each of the micro-capsules containing a dispersion medium (which is inherent included via the dispersed particles throughout the fluid in the capsules), a first particle (112), and a second particle (114), the first particle and the second particle being colored a first color (black) and a second color (white), respectively, so as to reflect corresponding colors to be reached to a viewer, the first color and the second color being complementary, and a charge of the first particle being inverse of a charge of the second particle. See paragraphs 68, 70, 83-85, and 90-91).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the display device of Kuwahara to include a first particle of a first color having a charge that is inverse of the charge of a second particle, in the same conventional manner as taught by Yamaguchi; in order to neutralized the particles of corresponding electrodes in different colors.

Claim 18 contains features that are analogous to the limitations recited in claim 16. As the limitations of claim 16 as been found obvious over the combined teaching of Kuwahara and Yamaguchi; it is readily apparent that the applied prior art performs the underlying elements. As such, the limitations of claim 18 are, therefore, rejected under the same rationale as claim 16.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amundson et al. (US 20060038772) in view of Ikeda (US 6239896).

In regard to claim 16, Kuwahara discloses most claimed features of the invention, as set forth in the previous Office Action (6/20/06), but he fails to teach that a first particle of a first color having a charge that is inverse of the charge of a second particle, which is disclosed by Ikeda. See Ikeda's col. 3, line 49 to col. 5, line 9, and col. 6, lines 20-52, wherein the charged electrodes described thereby correspond with the particles, for they share the same voltage.

In regard to claim 17, Amundson fails to teach an electrooptical device comprising electrodes which sandwich a plurality of micro-capsules, wherein the first color is selected from a group including red, green and blue, and the second color is

selected from a group including cyan, magenta and yellow, which is disclosed by Ikeda. See col. 26 lines 35-54 and col.30 lines 26-40.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the display device of Amundson with that of Ikeda; in order to neutralized the particles of corresponding electrodes in different colors.

***Allowable Subject Matter***

7. Claims 23-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, because the prior art of record fails to teach the first cell displaying the first color in a brightness that corresponds with electrophoretic migration of the electrophoretic particles in the dispersion medium of the first cell, and the second cell displaying the second color in a brightness that corresponds with electrophoretic migration of the electrophoretic particles in the dispersion medium of the second cell (as recited in claims 23-24); the first color reflected by the electrophoretic particles in the first cell passing through the dispersion medium and being displayed, the second color reflected by the electrophoretic particles in the second cell passing through the dispersion medium and being displayed (as recited in claims 25-26).

8. Claims 27-28 are allowed because the prior art of record fail to teach an electrooptical device comprises a first cell including a first dispersion medium and first particles dispersed in the first dispersion medium, the first dispersion medium being

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colored cyan for absorbing a red wavelength component and the first particles being colored red, the first cell displaying colors from black to red by controlling electrophoretic migration of the first particles to control amount of the red wavelength component absorbed by the first dispersion medium; a second cell including a second dispersion medium and second particles dispersed in the second dispersion medium, the second dispersion medium being colored magenta for absorbing a green wavelength component and the second particles being colored green, the second cell displaying colors from black to green by controlling electrophoretic migration of the second particles to control amount of the red wavelength component absorbed by the second dispersion medium; and a third cell including a third dispersion medium and third particles dispersed in the third dispersion medium, the third dispersion medium being colored yellow for absorbing a blue wavelength component and the third particles being colored blue, the third cell displaying colors from black to blue by controlling electrophoretic migration of the third particles to control amount of the red wavelength component absorbed by the third dispersion medium (as recited in claim 27); a first cell including a black dispersion medium and first particles dispersed in the black dispersion medium, the black dispersion medium being colored black and the first particles being colored red, the first cell displaying colors from black to red by controlling electrophoretic migration of the first particles to control amount of the red wavelength component absorbed by the black dispersion medium; a second cell including the black dispersion medium and second particles dispersed in the black dispersion medium, the second particles being colored green, the second cell displaying colors from black to green by

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controlling electrophoretic migration of the second particles to control amount of the red wavelength component absorbed by the black dispersion medium; and a third cell including the black dispersion medium and third particles dispersed in the black dispersion medium, the third particles being colored blue, the third cell displaying colors from black to blue by controlling electrophoretic migration of the third particles to control amount of the red wavelength component absorbed by the black dispersion medium (as recited in claim 28).


### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sajous Wesner whose telephone number is 571-272-7791. The examiner can normally be reached on M-F 9:15-6:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 571-272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sajous Wesner  
Primary Examiner  
Art Unit 2628

WS  
1/16/08